

**Statement to U.S. House Energy and Commerce Committee
Subcommittee on Digital Commerce and Consumer Protection**

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Disrupter Series: Update on IoT Opportunities and Challenges

Good morning. My name is Peter Kosak, and I am Executive Director of Urban Active Solutions at General Motors.

Thank you Chairman Latta, Ranking Member Schakowsky and distinguished members of the Subcommittee for the opportunity to speak to you today about the new initiatives by General Motors to address the changing mobility needs of our customers.

At GM, disruptive technology developments are unlocking access and efficiencies with regards to transportation, resulting in new and improved services. I highlight three today. One is embedded connectivity in vehicles and devices; another one is app-based information, access, and control for consumers; and, lastly, data science that is enabling efficiency in operating systems and services.

Twenty years ago, recognizing the value of and potential for embedded connectivity, General Motors pioneered automotive telematics with the founding of OnStar.

When I first learned about OnStar back in 1995, I couldn't imagine the potential of embedded connectivity – although I certainly understood the benefits of safety notifications and a call center that could upload directions and destinations to my dashboard navigation system.

It has been fascinating watching subsequent connectivity developments – especially in safety, such as GM working with doctors to understand how crash telemetry data can help prepare arriving first responders.

Since introduction in 1996, OnStar has responded to over 1.5 billion customer requests, from automatic crash response and stolen-vehicle recovery, to remote door unlock, vehicle diagnostics and more. GM now has 12 million OnStar-connected vehicles on four continents.

Leveraging the foundation of OnStar and other key technologies, General Motors is extending its core business into the transportation-as-a-service space – where embedded connectivity, app-based access, and data science are transformative.

We've created a new brand called Maven – an innovation leveraging GM's leadership in automotive connectivity. Now in 17 cities, Maven is a platform for on-demand mobility, offering multiple car-sharing products for consumers and businesses, such as Maven City, Maven Home and Maven Gig.

The Maven City and Home car-sharing platforms, which were launched in February 2016, offer a range of vehicles that are distributed where people live and work for shared-use. In 15 cities, members can 'rent' vehicles by the hour, day, week, or month. Insurance, fuel, and maintenance are included in rental. The entire service experience is keyless: your phone is your key.

Maven removes the need to own and keep a car for those who cannot or choose not to own. We've also seen that it serves as a mobility alternative for current vehicle owners.

Nationally, 75% of Maven Members are Millennials – a hard-to-reach and important consumer group. Across the U.S., over 350,000 hours have been driven, with approximately 50,000 hours driven in Washington, DC, and Chicago. In Los Angeles, which was recently launched, drivers have logged approximately 28,000 hours.

Building upon Maven Home and City, we launched an on-demand leasing program for rideshare drivers in March 2016, which evolved into what we now call Maven Gig.

Maven Gig is an enabler for the sharing economy. We provide Gig drivers access to vehicles on a weekly rental basis for those who want to work for an app-based ridesharing or delivery company like Lyft, Instacart, and Grubhub.

Maven provides drivers with a great deal of flexibility to enter and exit the program – all with access to new or low mileage vehicles they may not have otherwise been able to access.

With Maven Gig, a driver can carry commuters in the morning and evening, make deliveries mid-morning and mid-afternoon, and deliver lunches and dinners at mealtimes – while having access to a car or crossover for personal use.

Since its launch, Maven Gig drivers have logged over 140 million miles, providing rides for over 17 million customers. In mid-February, we began deploying Chevrolet Bolt Electric Vehicles (EVs) into San Francisco ride-sharing applications – starting with 25. We're now up to over 80 in San Francisco and San Diego.

The efficient, flexible Chevrolet Bolt EV is uniquely capable, offering 238 miles of all-electric range and DC fast-charge capability. In less than four months, we've logged over 550,000 miles enabled by over 5,000 fast-charge events and carrying over 50,000 riders. Bolt EV drivers are averaging about 130 miles per day, which is about four times that of private vehicle miles driven per day. Ten percent of total days driven among all drivers is over 240 miles – making clear that charging and range limits are not issues.

Beyond fueling greater urban mobility and ridesharing access, Maven Bolt EVs are yielding unprecedented carbon free miles per vehicle; increasing public exposure to electric vehicles; demonstrating that on-demand ride-sharing drivers will use EVs; and building a compelling business case for public charging. At the same time, Maven is building new partnerships with charging providers and electric utilities. Maven's Bolt EV deployment provides operational learning and a solid foundation for the next step – Bolt EV-based autonomous ride-sharing.

Maven Gig and our Bolt EV deployment offer affordable, accessible and integrated mobility options for multiple communities.

While Maven Home, City, and Gig are new, in-market ways for consumers to access automobiles for personal use or as a means to generate income, autonomous or self-driving technology promises opportunities to make chaotic urban environments safely manageable. The self-driving technology can improve ridesharing system efficiency and reduces traffic congestion. It also seamlessly integrates with mass transit as coordinated first/last mile solutions; and, fills gaps between taxis and mass transit via dynamic shuttles.

When combined with active safety technology, the rapid advances in connectivity are also providing the foundation for automated vehicles that make driving safer and easier. To unlock the potential of autonomous vehicle and system capabilities as soon as possible, GM acquired Cruise Automation in San Francisco and has an aggressive autonomous vehicle development program underway. Using the Chevy Bolt EV as a natural base platform, autonomous development and testing is now underway on public roads in San Francisco, CA; Scottsdale, AZ; and Warren MI. The cars feature LIDAR, cameras, sensors and other hardware as components of a safe and reliable fully autonomous vehicle.

GM is mass-producing fully electric autonomous test vehicles in Michigan. These vehicles will join the 50 test vehicles already deployed in San Francisco, Scottsdale and Warren, MI. GM is testing these self-driving cars and collecting and analyzing real-world data, ensuring our autonomous vehicles meet the company's strict safety and quality standards.

In summary, business model and technology innovations promise to transform mobility, affording greater access and improved quality of life in cities. Embedded connectivity, app-based access, and data science will yield safer and more robust transportation systems, with more modality options.

GM is making investments in connectivity, IT, electrification, and autonomous technologies to maintain its leadership position as we all, collectively, drive towards this exciting future.